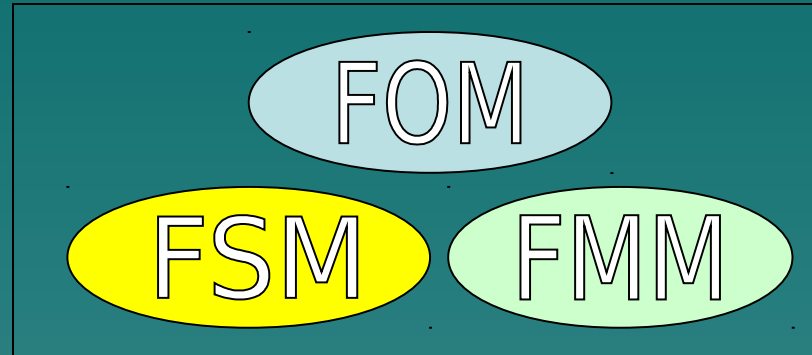


OSD FACILITIES BUDGETING MODELS



FACILITIES OPERATIONS MODEL (Former RPS)
real property services

FACILITIES SUSTAINMENT MODEL

FACILITIES MODERNIZATION MODEL

FSM, FMM and FOM are a Triad of budgeting planning mathematical tools used by the DoD facility engineering and installations community to define standardized operations, sustainment, and recapitalization requirements for DoD's facilities portfolio.

WHAT are FOM, FSM and FMM Models??

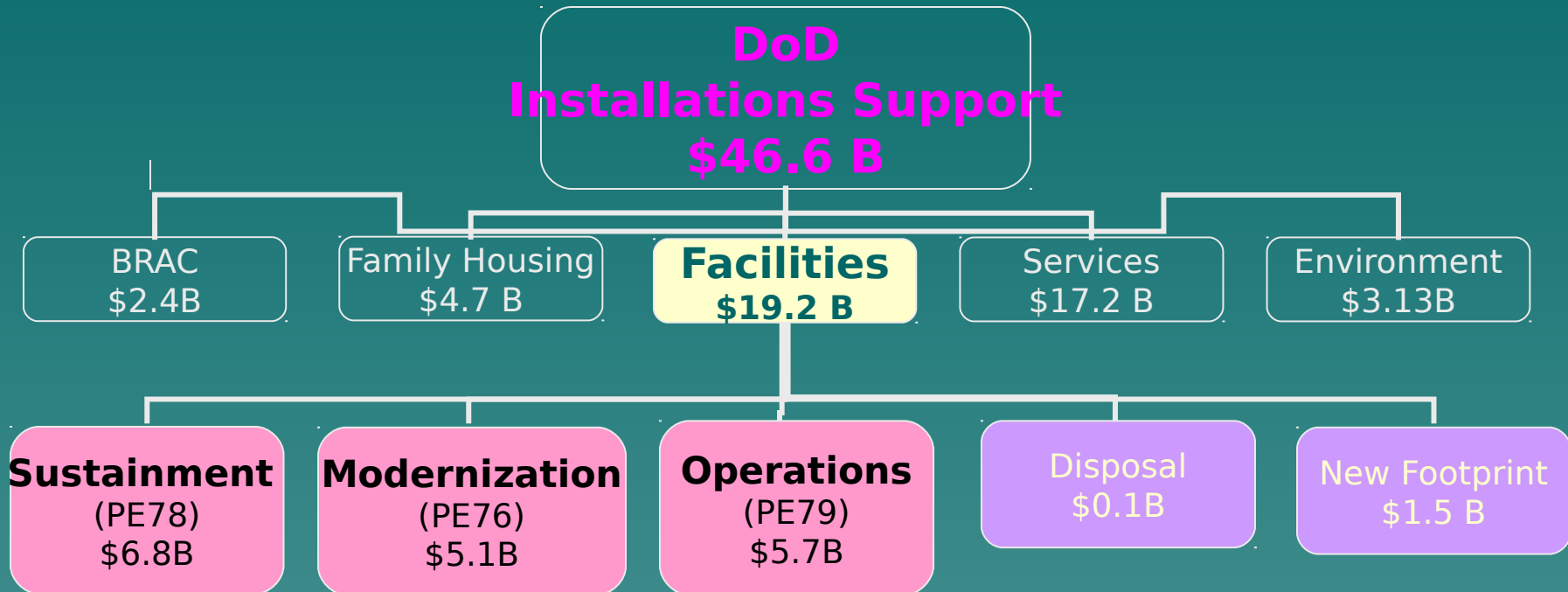
- ◆ OSD BIG PICTURE budgeting tools to identify standardized **operations**, **sustainment**, and **modernization** costs of DoD real property facilities portfolio.
- ◆ Used by OSD budgeting and DoD facility engineering and installations community.

Why Needed?

◆ **Problem: WHAT do we OWN and what does it COST to operate?**

- Historic budget trends erratic
- At times, understated requirements
- Delivery of inadequate service and funding levels
- Inability to protect funding requirement
- Non standard and incompatible methodologies
- Insufficient data to support informed decision making
- PLUS.....Inventory historically hard to determine

DoD INVENTORY



FY06 dollars shown

FSM / FMM / FOM Models /
Metrics

Other Models

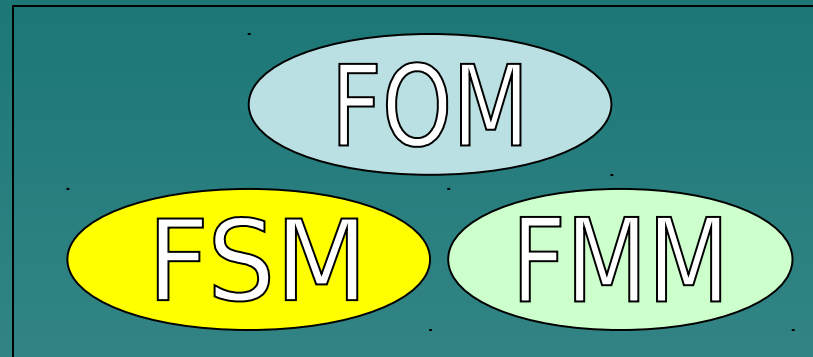
TMA PLANT REPLACEMENT VALUE (PRV)

◆ Source: FSM-FMM-FOM_v08.2_ALL_FACILITIES_FY08

TMA ORG Code	SERVICE	PRV
◆ 53	A	\$ 9,618,878,960
◆ 53	F	\$ 4,912,772,608
◆ 53	M	\$ 69,940,100
◆ 53	N	\$ 6,579,874,293

◆ **Total PRV (\$) for TMA: \$21,181,465,961**

SOLUTION: BUDGETING MODELS



OSD BUDGETING MODELS enable budget planners to identify, advocate and defend funding requirements for the sustainment, operations and modernization of DoD facilities over the Future Years Defense Plans (**FYDP**) .

WHO Developed the Models?

Collaborative Team Effort” beginning in 2005

MODELS Team

- OSD Installations & Environment
 - ◆ R&K Engineeringinputs to databases
 - ◆ Whitestone Research.....derives cost factors
- Air Force (ILER & FMBO)
- Army (ACSIM)
- Navy (CNI)
- Marines (LFF)
- National Guard Bureau (ARI)
- Washington Headquarters Service (DFD)
- DoD Education Agency
- Defense Logistics Agency
- Defense Contract Management Agency
- **Tri-Care Management Activity**

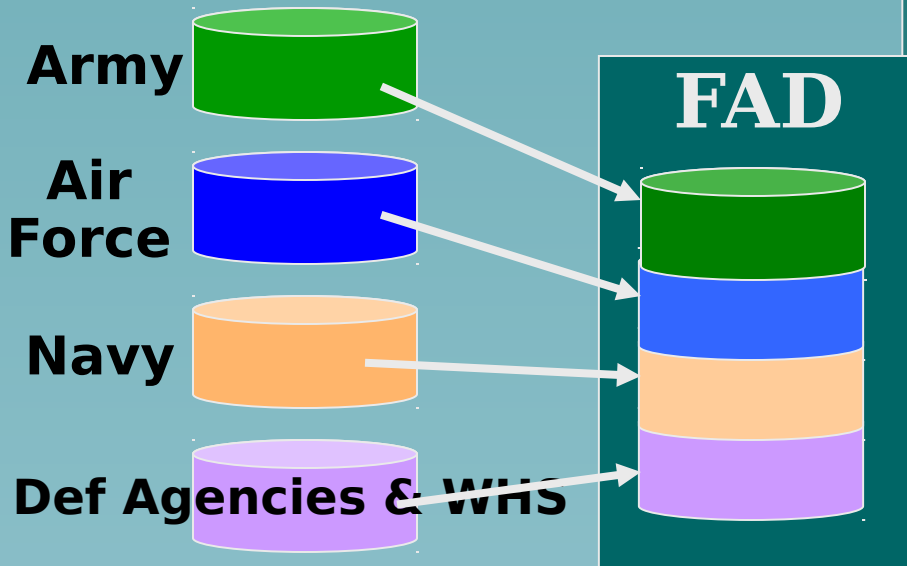
HOW MODELS CONSTRUCTED?

$$\textit{Requirement} = Q \times C \times L$$

- **Q**: Quantity. Derived from Real Property Inventory (RPI)
- **C**: Cost Factor. UFC 3-701-06 (DoD Facilities Pricing Guide)
- **L**: Location Index. UFC 3-701-06:
 - ♦ Area Cost Factor
 - ♦ Climate Factor.

Q = REAL PROPERTY INVENTORY (RPI)

Real Property Inventories....



Filters & Business Rules

Examples... rules to:

....clean-up errant Real Property data

.....to parse out requirements for different fund

sources

- NAF
- **Medical**
- Family Housing
- State contributions

.....Produce the DoD Facilities Assessment

C: Cost Factors. Found in UFC 3-701-06 (DoD Facilities Pricing Guide

Industry Based To the maximum extent possible.
Whitestone Research

Military Departments and DoD Agencies Recent Costs at individual Installations

Example of **Industry Based Sources:**

- ◆ Building Owners & Managers Association International
- ◆ The Association of Higher Educational Facility Officers
- ◆ Urban Land Institute
- ◆ Institute of Real Estate Management
- ◆ RICS Building Cost Information Services Ltd.
- ◆ International Facility Management Association (IFMA)
- ◆ **Whitestone Research**

L = Location Index

Consists of:

- **Area Cost Factor:**
 - UFC 3-701-06 (DoD Facilities Pricing Guide)
 - Unique to each installation
 - ♦ Washington DC is the baseline at "1"

and

- **Climate Adjustment factor**

What is: Facilities Operations Model (FOM)?

- ◆ Mathematical Budget Planning Tool to identify, advocate and defend funding for Facilities Operations (FO) Functions over the Future Years Defense Plan (FYDP)
- ◆ Costs based on commercial cost factors researched by Whitestone Research and other sources..
- ◆ Provides annual cost for each of ~ 400 facility analysis categories (FACs) within the facilities operation program (utilities, custodial, grounds maintenance, etc.)
 - Formerly called Real Properties Services (RPS)
 - Program Element (PE) ***79 when O&M funded).

What does FOM Include?

Primary Operation Functions (Program Elements)

1. Fire & Emergency Services
2. Utilities (Energy + Water & Waste Water)
3. Pavement Clearance
4. Refuse Collection & Disposal
5. Real Property Leases
6. Grounds Maintenance & Landscaping
7. Pest Control
8. Custodial
9. Real Property Management & Engineering Services
10. Readiness Engineering

- ◆ **Commercial Benchmarks** typically establish frequency and standards of service (Not Always. Can be changed within FOM Panel.

2006 PPMD TRI-SERVICES SYMPOSIUM

FOM SERVICES/TMA ANNUAL \$\$ REQUIREMENT

**BASED ON FSM
V8.2
INVENTORY**

S E R V I C E	ENERGY	WTRWST	RPMGT	FIREPR	CUSTOD	REFUSE	GRNMN T	L E A S E S	PESTCL	PAVCLR	ENG RED	ENRMG T
A	71,722,877	5,470,778	16,899,052	6,203,978	42,736,202	3,450,909	3,811,708	0	961,668	31,945	0	1,334,076
F	54,434,728	2,641,304	7,809,093	490,389	23,974,944	1,840,110	2,037,462	0	506,541	2,062	0	655,675
M	525,056	40,123	108,238	7,299	365,151	28,134	31,199	0	7,704	0	0	9,848
N	55,183,323	3,589,570	9,841,469	694,876	25,385,758	2,255,523	2,947,690	0	672,409	28,833	0	922,301
T O T A L	181,865,984	11,741,774	34,657,852	7,396,542	92,462,055	7,574,676	8,828,059	0	2,148,322	62,839	0	2,921,900

What is: Facilities Sustainment Model (FSM)?

- ♦ **Mathematical model used to calculate maintenance and repair activities necessary to keep a typical inventory of DoD facilities in good working order throughout their allocated service life.**

Includes regularly scheduled adjustments and inspections, preventive maintenance, emergency response and service calls for minor repairs and major repairs/replacement of facility components expected to occur periodically throughout the facility life cycle.

- i.e. regular roof replacement, refinish wall surfaces, repair/replace electrical, heating, and cooling systems, replacing tile/carpets, etc.
- **Excludes** repair/replace non-attached equipment-furniture, or building components that typically last more than 50 years (such as foundations and structural members).

2006 PPMD TRI-SERVICES SYMPOSIUM

FSM ANNUAL SERVICES/TMA \$\$ REQUIREMENT		
BASED ON FSM V8.2 INVENTORY		
SERVICE	FSM ANNUAL SUSTAINMENT COST	
A	177,033,805	
F	94,803,740	
M	1,020,797	
NAVY	113,027,575	
TOTAL	385,885,917	

What is: Facilities Modernization Model (FMM)?

- ◆ Mathematical model used to predict the average annual funding required to *modernize** DoD facilities inventory on a continual, ongoing basis.
- ◆ Recapitalized replaces or to renovates to a “like new” condition such that its useful life may be extended.
 - *Modernization updates-renews a facility to current standards without changing the fundamental size or function.
 - ◆ Does not include: expansion or enlargement; restoration/repair to facilities prematurely deteriorated due to lack of sustainment; and restoration /repair due to unforeseen events such as fire or hurricane.

2006 PPMD TRI-SERVICES SYMPOSIUM

FMM ANNUAL SERVICES/TMA \$\$ REQUIREMENT

BASED ON FSM V8.2 INVENTORY

SERVICE		FMM ANNUAL RECAPITALIZATION COST
A		237,507,716
F		138,663,843
M		1,700,008
NAVY		157,061,444
TOTAL		534,933,012

FMM INFORMATION

- ◆ **The Existing 67 Year DoD Recapitalization Rate has been replaced by new facilities specific Study-based benchmarks and metrics**
 - **In parallel with the current metric for the FY 2008-13 program/budget**
 - **FY08 a transition year.**

- ◆ FSM, FMM, FOM V 8.2 WEBSITE
- ◆ R+K Enginnering

<https://fxm.rkeng.com>

customersupport@rkeng.com